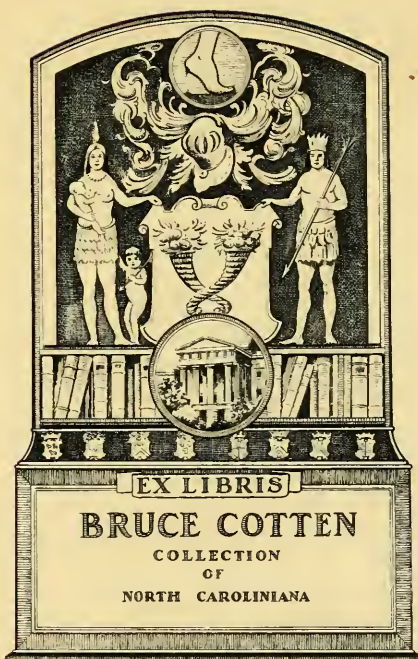





Henry James
Esq
Mallin





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FOURTH
ANNUAL REPORT
OF THE
BOARD OF DIRECTION
AND OF THE
CHIEF ENGINEER
OF THE
Albemarle and Chesapeake
CANAL COMPANY.

OFFICE, NORFOLK, VA.

NEW YORK:
HOSFORD & CO., STATIONERS AND PRINTERS,
Nos. 57 and 59 William Street.

1859.

Albemarle & Chesapeake Canal Co.

INCORPORATED BY
VIRGINIA AND NORTH CAROLINA.

Capital, \$1,500,000.

PRESIDENT:
MARSHALL PARKS.

CHIEF ENGINEER:
JOHN LATHROP.

DIRECTORS:

BENJAMIN T. SIMMONS	JOHN W. PARKS
THOMAS V. WEBB	L. H. CHANDLER
T. L. SKINNER	ADDISON M. BURT

N. C. STATE DIRECTORS:

HON. H. M. SHAW	HON. JOHN B. JONES
W. G. WILSON, Esq.	

REPORT.

THE Board of Direction of The Albemarle and Chesapeake Canal Company respectfully submit the following as their Fourth Annual Report:

At the date of the last Report, the distance remaining to be excavated to complete a connection between the Albemarle and the Chesapeake, was about three-fourths of a mile.

During the year this distance has been excavated, and the lock has been completed, so that there is now a continuous channel through the entire line, of sufficient capacity for lighters and barges, and for steamers and other vessels not drawing more than five feet of water.

The three bridges have been completed; and in fact, all of the mechanical work on the entire line, except houses for the bridge-keepers, is now complete, and will compare favorably with that of any other public improvement in the country.

From the Report of the Chief Engineer, it appears that for about two-thirds of its entire length, the Canal is excavated to the required width of sixty-one feet at the water-line, and for the remainder to one-half the required width, the whole having an average depth of six feet water, the least depth being five and a-half feet.

The present state of the excavation is shown by the diagram annexed to this report.

The steam dredges or excavators are constantly at work, and at the rate of progress they are now making, the North Carolina section will be all excavated to the width of sixty-one feet by the first of March next, and the whole Canal will be excavated to that width by the first of August or September next, with a constantly improving navigation from the present time forward. After August or September, the depth of water through the whole Canal will be seven feet.

For more particular information in regard to the condition and progress of the work, reference is made to the Report of the Chief Engineer, which is hereto annexed.

The Company have purchased one steamtug, and are now making arrangements for the other necessary steamboats, in order to be ready for the fall and winter business.

Since our last Report, the State of North Carolina has subscribed to the stock of this Company the additional sum of \$100,000, authorized by the Act of 1857, thus making the whole amount of the State subscription \$350,000, all of which has been paid in six per cent. coupon bonds.

The original plan of the Company was to open a Canal with six feet depth of water, and the contract first made calls for only that depth; but when the State of North Carolina came in as a stockholder, she required, as a condition of her subscription, that the Canal should have sufficient depth, at all times, to pass vessels drawing seven and a-half feet, and the Company having become satisfied that a six feet Canal would not accomplish their design of accommodating the entire trade of Eastern North Carolina, the plan was changed to that of a Canal with eight feet depth of water. The lock has been constructed with reference to that depth.

During the past year the Company have entered into a contract with Messrs. Courtright & Barton for all the additional work consequent upon the change of plan.

With regard to the cost of the construction and equipment of the Canal upon the enlarged plan, the Board are still of the opinion that it will but little, if any, exceed the amount heretofore estimated, viz: \$1,250,000.

The avails of stock subscriptions at par, including sums received and to be received, amount, as will be seen by the accompanying statement, to \$909,400.

In order to raise the additional sum necessary to complete the Canal, the Company have executed a mortgage upon their property for \$400,000, to secure an equal amount of coupon bonds, the avails of which will be sufficient, even in case no means are received from other sources, to complete and stock the Canal.

Though the mortgage is for \$400,000, it is not the intention of the Company to offer, at present, more than \$200,000 of the bonds; the avails of which, with the amount coming due on subscriptions, will furnish all the equipments and motive power at present required upon the Canal, and carry the work along until after the meeting of the next North Carolina Legislature, when it is confidently expected that the State will take stock for whatever additional amount may be necessary to complete the Canal. In this event the Company will be relieved from issuing the balance of the bonds provided for in the mortgage.

In view too, of the fact that this work has relieved the General Government from making the channel to the ocean, which they had commenced at Nag's Head, and which would have involved an expenditure of some \$5,000,000, the Board have good reason to expect that an appropriation may be obtained from Congress, for the improvement of the natural waters connected with the Canal. In this event also, the Company will be relieved from issuing more than the \$200,000 now offered. As yet, none of the bonds have been disposed of.

The Legislature of North Carolina, at its last session, passed an Act, ceding to the United States the jurisdiction over such sites along our line as may be necessary for the erection of light-houses, and during the past year, examinations and surveys have been made, under the direction of the Treasury Department of the United States, with reference to the placing of the necessary lights in North River and Currituck Sound; but owing to the late period at which the report of such examinations was received at the Department, no appropriation for these lights was inserted in the light-house bill passed by the last Congress. There is however, no reason to doubt the making of the necessary appropriations for these lights by the next Congress.

The following statement shows the financial condition of the Company at the close of the fiscal year, on the 30th September, 1859.

MARSHALL PARKS,

President.

STATEMENT OF AFFAIRS ON THE 1ST OCTOBER, 1859.

CAPITAL STOCK.

Authorized Capital.....	\$1,500,000 00	
Subscribed as per last Annual Report....	*809,400 00	
“ since by State of N. C.....	100,000 00	
		<hr/>
Total amount subscribed.....	909,400 00	
Amount paid in on subscriptions.....	808,100 00	
“ unpaid “ “	101,300 00..	909,400 00
		<hr/>
Leaving nnsubscribed....		590,600 00

RECEIPTS.

From State of North Carolina.....	\$350,000 00	
“ County of Currituck.....	44,000 00	
“ Individuals.....	414,100 00	
		<hr/>
Total am't from Stock subscribed..		808,100 00
Rec'd for interest on State and Co. Bonds.		8,650 00
From Bills payable.....		8,079 00
		<hr/>
Total Receipts from all sources..		824,829 00

EXPENDITURES.

For Construction of Canal, Engineering, Salaries and Contingent Expenses..	\$769,860 00	
For Real Estate.....	16,000 00	
“ Steamboats Calypso and Wasp....	5,019 00	
“ Loss on sale of State and Co. Bonds,	7,817 00	
“ Right of Way, Taxes, Commissions, &c.	1,284 00	
		<hr/>
Total Expenditures.....		799,980 00
		<hr/>
Leaving on hand.....		\$24,849 00
Viz: Currituck Co. Bonds..	24,200 00	
Cash.....	649 00	
		<hr/>
		\$24,849 00

CHIEF ENGINEER'S REPORT.

To MARSHALL PARKS, Esq., President of the Albemarle and Chesapeake Canal Company.

IN presenting to you my Fourth Annual Report, upon the condition and progress of the work, I would state, that all of the machines, nine in number, have been constantly employed during the entire season, except at such times as they have been withdrawn temporarily for repairs. In my last Annual Report I embraced the condition of the work up to the 1st of November last; but in consequence of an earlier meeting of the Board this year, I can only report its condition up to the 1st of October, a period of eleven months.

At the date of my last Report, only a small portion of the masonry in the Lock had been laid. It was, however, entirely completed for the passage of vessels early in April last. This Lock, the only one required upon the Canal, is located at the junction of the Canal with the Elizabeth river, and is rendered necessary only by the tide in the river, which at that point has a rise and fall of about four feet. It is one of the largest locks in the United States, being forty feet in width, two hundred and twenty feet in length between the gates, and has eight feet depth of water at low tide upon the mitre sills. The walls are built in the most substantial manner, with dressed stone from the granite quarries of Port Deposit, and rest upon a solid timber and pile foundation. The ordinary surface of water in the Canal, corresponds with the surface of the water in the river at mean tide; so that at high tide in the river, it is necessary to lock *down* two feet into the Canal,

and at low tide in the river, to lock *up* two feet into the Canal. The greatest amount of lockage is therefore only two feet; while at mean tide there is no lockage, as the waters are on a level, and consequently the average lockage will not exceed one foot.

This is probably the first lock ever constructed which would allow vessels to lock up or down either way. To accomplish this object, two sets of gates, shutting in opposite directions, are placed at each end of the lock, and vessels now pass through at any state of the tide, with equal facility in either direction. The great width of the lock required very strong, and consequently very heavy gates. The ordinary methods of suspending and opening them could not be used here, but under the plans adopted, they are now opened with as much ease and expedition as those of a lock of ordinary width. It has now been in use about six months, and answers my expectations in every particular.

The Swing Bridges, three in number, were also completed early in April, are substantial structures and easily managed. All the mechanical work, except three small houses for the bridge tenders, is now completed, and nothing remains but the completion of the excavation.

In the last Report the excavation done was estimated to be equal to the completion of eight and eight tenths miles of the Canal. The work done since that time is estimated to be equal to two and seven tenths miles, making the work now done equal to the completion of eleven and one half miles, and leaving two and three fourths miles yet to be done to complete the Canal to six feet depth of water. At that time there remained about three eighths of a mile on each portion of the Canal necessary to be done in order to complete a single channel through. This was accomplished in December last. Some considerable time, however, was afterwards spent, in improving the width and depth of such portions of this channel as the opening of navigation required, and since then the machines have been em-

ployed in the excavation of the remaining side, and in removing the core left between the two channels. The Canal is now excavated to the full width for a distance of eight and three quarter miles, leaving about five and one half miles where the Canal is at present only half width. Three and one half miles of this is on the Virginia portion of the Canal, and two miles on the Carolina portion. Of this two miles, one and one fifth miles is through the Coinjock Bay, where the channel at present excavated is at least thirty feet wide and six feet deep; and being free from stumps, and easy of excavation, can be taken out in a short time after completing the other and more important portions of the Canal. The location and extent of the unfinished portions of the canals are accurately represented on a diagram accompanying this Report,

The Core, or that portion left by the machines in excavating the channel on each side, has been removed for a large portion of the distance, and excavated for eight feet depth of water. One or two dredges are constantly at work removing the remaining portion, and the other dredges, as they proceed with the excavation on the remaining side, remove the core at the same time. At the present rate of progress, the remaining side may be completed, all the core removed, and a channel of seven feet water made through the North Carolina Canal, by the 1st of March next, and through the entire portion of both canals, during the month of August or September next. Before, however, a navigation of seven feet water can be obtained between Norfolk and the Albemarle Sound, it will be necessary to deepen the channel for about one mile in length through Cedar Bay, and for about four miles through the lower part of the North Landing river. This can all be accomplished within twelve or thirteen months of this time, so that a channel of seven feet can be secured through the entire length of our navigable waters, in time for the trade of another season.

Various speculations have been entertained in relation to the effect of the winds upon the depth of water, or in the creation of currents

through the Canal. The assumed level of the Canal, you are aware, is based upon the level of the waters of the Albemarle and Pamlico Sounds. The level of these waters changes but little during the year, unless caused by the wind. This, at times, temporarily depresses and raises the water at the different ends, depending upon the direction of the wind. The opening of the Canal and connection of the waters has confirmed all my previous observations and opinions, and I feel satisfied that no fears need be entertained of any serious depression of the water, below the assumed level of the Canal, nor that any currents will be caused by the wind which can ever interrupt or seriously interfere with the navigation.

Although in the construction of this Canal, we have encountered the most formidable and unforeseen difficulties from logs, cypress and other stumps, both below and above the surface, difficulties greater probably than were ever before met with on any work of equal extent, and which have had the effect to retard the completion of the work; it may be gratifying to the stockholders to know, that when finished, there is no canal in the world subject to so few contingencies, or the maintenance of which will be attended with so little expense, or subject to so little depreciation. The water of the Canal being for its entire length below the level of the adjoining country, no embankment is necessary upon the whole line, and consequently must be exempt from breaks. No mechanical work that effects the navigation, except the one lock, which is constructed in the most durable manner. No streams crossing or running into it, which might cause bars or freshets. Free from all quicksand or other material, which would be liable to wash in or fill up the Canal, and having an unlimited supply of water, it is scarcely possible to conceive of a work more favorably situated in regard to casualties, depreciation or cost of maintenance.

Respectfully submitted,

JOHN LATHROP,

Chief Engineer.

NORFOLK, OCTOBER, 1859.

DIAGRAM

OF THE CONDITION OF THE WORK.

The black part represents the portion of canal completed—

The white part represents the unfinished portion.

Curriduck Sound

. North River,

CAROLINA SECTION.

*Elizabeth River
Lock.*

Leviti.

Great Bridge.

Olds' Point,

North Landing River

VIRGINIA SECTION.

1875

1876

1877







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